**Water supply and Sewage Discharge per day:**

**Water supply:**

Water supply is the quantity of water that a source must produce to meet all the water requirements of a project.

Water supply depends on various factors such as general domestic purposes and flushing for residences. For upper middle class, the value of water supply can be given as 150 to 200 litres per head per day. A minimum of 70 to 100 litres per head per day may be considered adequate for domestic needs of urban communities, apart from non-domestic needs as flushing requirements [1]. Out of the 150 to 200 litres per head per day, 45 litres per head per day may be taken for flushing requirements and the remaining quantity for other domestic purposes [1]. The value of water supply given as 150 to 200 litres per head per day may be reduced to 135 litres per head per day for houses for Lower Income Groups (LIG) and Economically Weaker Section of Society (EWS), depending upon prevailing conditions [1].

We have considered the people residing in residential spaces as upper middle class, taking average water supply per head per day for them as 200 litres per head per day and the staffs as Lower Income Groups (LIG), taking average water supply per head per day for them as 150 litres per head per day.

The Calculation of water supply is shown in Table 1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No.** | **Type of Occupants** | **No. of Occupants** | **Water Supply Per Person Per Day (Litres)** | **Average Water Supplied Per Day (Litres)** |
| **1** | Villas | 144 | 200 | 28800 |
| **2** | Bungalows | 60 | 200 | 12000 |
| **3** | 3BHK (Flats) | 192 | 200 | 38400 |
| **4** | Other Staffs | 80 | 150 | 12000 |
| **5** | **Total** | **476** | **750** | **91200** |

Table 1. Average water supplied to residences and staffs per day

Average Water supply for Residences comes out to be 91200 Litres/day.

**Sewage Discharge:**

Wastewater discharge means the amount of water or substance added /leached to a water body from a point or a non-point source.

The per capita sewage which is produced in community can be easily determined by assuming it as 75 to 80 % of the per capita water supplied to the public. [2]

While calculating the sewage discharge, we have assumed it to be 80%.

The average sewage discharge is calculated in Table 2.

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **Type of Occupants** | **Average Water Supplied Per Day (Litres)** | **Average Sewage Discharge Per Day (Litres)** |
| **1** | Villas | 28800 | 23040 |
| **2** | Bungalows | 12000 | 9600 |
| **3** | 3BHK (Flats) | 38400 | 30720 |
| **4** | Other Staffs | 12000 | 9600 |
| **5** | **Total** | 91200 | 72960 |

Table 2. Average sewage discharge for residences and staffs per day

Average Water discharge for Residences comes out to be 72960 Litres/day.

1. IS1172:1993
2. S.K. Garg, Sewage Disposal and air pollution